Integrated Adaptive Analysis and Visualization of Satellite Network Data, Phase I

Completed Technology Project (2011 - 2011)

Project Introduction

We propose to develop a system that enables integrated and adaptive analysis and visualization of satellite network management data. Integrated analysis and visualization will enable users to see important patterns that span diverse types of satellite network management data, such as the health status of network components, network resource levels, scheduled activities, and resource allocations. This system will simplify the creation of linked visualizations that are implemented as tightly integrated displays showing time-oriented data, schematics, spatial data, and statistical graphics. Adaptive capabilities will enable the system to select appropriate analyses and design visualizations automatically in order to answer higher-level user questions and show data patterns of interest. During Phase 1, we will acquire a more detailed understanding of the data analysis and visualization requirements, design representative data visualizations, produce a high-level system design, and develop a software prototype that demonstrates the utility and feasibility of our approach. The Phase 2 project will produce TRL 6 data visualization software technologies that support greater situation awareness, enabling NASA to diagnose and manage the SCaN integrated network and other NASA space vehicles and ground-based systems more effectively.

Primary U.S. Work Locations and Key Partners

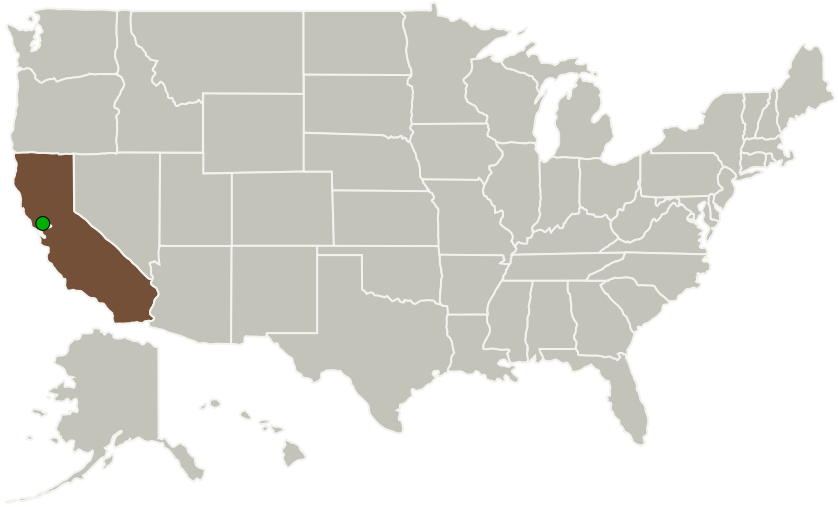

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Table of Contents

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
Stottler Henke Associates, Inc.	Lead Organization	Industry	San Mateo, California
Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California

Primary U.S. Work Locations
California

Project Transitions

February 2011: Project Start

September 2011: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/140664)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Stottler Henke Associates, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

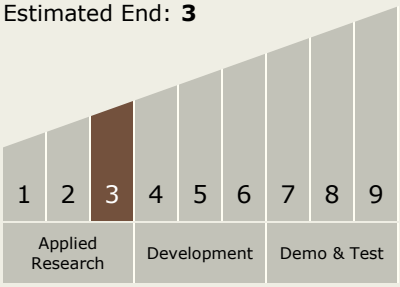
Carlos Torrez

Principal Investigator:

James C Ong

Technology Maturity (TRL)

Current: **3**
Estimated End: **3**



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Technology Areas

Primary:

- TX04 Robotic Systems
  - TX04.4 Human-Robot Interaction
    - TX04.4.3 Remote Interaction

Target Destinations

The Moon, Mars, Outside the Solar System, The Sun, Earth, Others Inside the Solar System